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10/086,117	02/26/2002	Christo P. Bojkov	TI-33887	2251

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EXAMINER

LEWIS, MONICA

ART UNIT PAPER NUMBER

2822

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/086,117

Applicant(s)

BOJKOV ET AL.

Examiner

Monica Lewis

Art Unit

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 19-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 19-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This office action is in response to the amendment filed August 14, 2003.

#### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-12 and 19-25 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Information Disclosure Statement***

3. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

#### ***Specification***

4. The amendment filed 8/14/03 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: a) copper stud at least a factor of ten thicker than said copper layer.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 19-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the following: a) "at least a factor of ten thicker" (See Claim 19). Claims 20-25 depend directly or indirectly from a rejected claim and are, therefore, also rejected under 35 U.S.C. 112, second paragraph for the reasons set above.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 6 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo et al. (U.S. Patent No. 5,656,858).

In regards to claim 1, Kondo discloses the following:

a) a portion of said copper metallization (107) exposed by a window in said overcoat (104) (For Example: See Figure 7e);

b) a copper layer directly positioned on said clean copper metallization, whereby said metal structure has an electrical conductivity about equal to the conductivity of pure copper, said layer overlapping the perimeter of said overcoat window (For Example: See Figure 7e); and

c) a copper stud (108) directly positioned on said copper layer, following the contours of said copper layer (For Example: See Figure 7e).

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In regards to claim 1, Kondo fails to disclose the following:

a) exposed copper having a clean surface, patterned copper layer and clean copper metallization.

However, the following limitations make it a product by process claim: a) exposed copper having a clean surface; b) patterned copper layer; and c) clean copper metallization. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "product by, all of" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "product by process" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

In regards to claim 2, Kondo discloses the following:

a) copper surface is free of copper oxide, organic residues, and contamination (For Example: See Figure 7e).

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In regards to claim 2, Kondo fails to disclose the following:

- a) clean copper surface.

However, the limitation of "clean copper surface" makes it a product by process claim.

The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "product by, all of" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "product by process" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

In regards to claim 3, Kondo discloses the following:

- a) direct positioning of said copper layer on said copper pad provides the lowest possible electrical resistance and relinquishes the need for an intermediate barrier or under-bump layer (For Example: See Figure 7e).

In regards to claim 3, Kondo fails to disclose the following:

- a) clean copper pad.

However, the limitation of "clean copper pad" makes it a product by process claim. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "product by, all of" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "product by process" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

In regards to claim 4, Kondo discloses the following:

a) copper layer has a thickness in the range from about .3 to .8  $\mu\text{m}$  (For Example: See Column 7 Lines 52 and 53).

Additionally, the applicant has not established the critical nature of the dimension of a copper layer that "has a thickness in the range from about .3 to .8  $\mu\text{m}$ " "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected

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results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

In regards to claim 6, Kondo discloses the following:

a) inorganic layer forms a perimeter around said window having a slope coverable by said copper layer (For Example: See Figure 7e).

In regards to claim 9, Kondo discloses the following:

a) copper layer follows the contour of said perimeter of said overcoat window (For Example: See Figure 7e).

In regards to claim 10, Kondo discloses the following:

a) copper stud has a thickness in the range from about 10 to 20 um and a width equal to the extent of said copper layer, following the contour of said perimeter of said overcoat window (For Example: See Figure 7e and Column 7 Lines 53 and 54).

Additionally, the applicant has not established the critical nature of the dimension of “a copper stud that has a thickness of 10 to 20 um” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

In regards to claim 11, Kondo discloses the following:

a) a portion of said copper metallization exposed by a window in said overcoat (For Example: See Figure 7e);

b) a copper layer directly positioned on said clean copper metallization, whereby said metal structure has an electrical conductivity about equal to the conductivity of pure copper, said layer overlapping the perimeter of said overcoat window (For Example: See Figure 7e); and

c) a copper stud directly positioned on said copper layer, and one of said solder bumps bonded to said copper area (For Example: See Figure 7e).



In regards to claim 11, Kondo fails to disclose the following:

a) exposed copper having a clean surface, patterned copper layer; and clean copper metallization.

However, the following limitations make it a product by process claim: a) exposed copper having a clean surface; b) patterned copper layer; and c) clean copper metallization. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. (U.S. Patent No. 5,656,858) in view of Edelstein et al. (U.S. Patent No. 6,133,136).

In regards to claim 5, Kondo discloses the following:

a) overcoat is a moisture-impermeable inorganic layer including silicon nitride (For Example: See Column 7 Line 39).

In regards to claim 5, Kondo fails to disclose the following:

a) overcoat including silicon nitride and silicon oxynitride of approximately 1.0 um thickness.

However, Edelstein et al. ("Edelstein") discloses the use of an overcoat including silicon nitride and silicon oxynitride of approximately 1.0 um thickness (For Example: See Column 2 Lines 40-47). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Kondo to include the use of an overcoat including silicon nitride and silicon oxynitride of approximately 1.0 um thickness as disclosed in Edelstein because it aids in improving the structural integrity of the device (For Example: See Column 1 Lines 1-63).

Additionally, since Kondo and Edelstein are both from the same field of endeavor, the purpose disclosed by Edelstein would have been recognized in the pertinent art of Kondo.

Finally, the applicant has not established the critical nature of the dimension of “a overcoat including silicon nitride and silicon oxynitride of approximately 1.0 um thickness” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

11. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. (U.S. Patent No. 5,656,858) in view of Applicant’s Prior Art and Gansauge et al. (U.S. Patent No. 5,010,389).

In regards to claim 7, Huang fails to disclose the following:

a) overcoat is a sequence of an inorganic layer adjacent to the integrated circuit, overlaid by a polymeric layer including polyimide, benzocyclobutene, and polybenzoxazole.

However, Applicant’s Prior Art discloses the use of a polymeric layer (For Example: See Figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Kondo to include the use of a polymeric layer as disclosed in Applicant’s Prior Art because it aids in reducing stress (For Example: See Page 3 Lines 14-30).

Additionally, since Kondo and Applicant’s Prior Art are both from the same field of endeavor, the purpose disclosed by Applicant’s Prior Art would have been recognized in the pertinent art of Kondo.

b) polymeric layer of approximately 3.0 to 10 um thickness.

However, Gansauge et al. ("Gansauge") discloses the use of a polymeric layer that is approximately 3.0 to 10 um thick (For Example: See Column 5 Lines 18-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Kondo to include the use of a polymeric layer that is approximately 3.0 to 10 um thick as disclosed in Gansauge because it aids in improving the packaging of the device (For Example: See Abstract).

Additionally, since Kondo and Gansauge are both from the same field of endeavor, the purpose disclosed by Gansauge would have been recognized in the pertinent art of Kondo.

Finally, the applicant has not established the critical nature of the dimension of "polymeric layer of approximately 3.0 to 10 um thickness" "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

In regards to claim 8, Kondo discloses the following:

a) sequence of layers forms a perimeter around said window having a slope coverable by said copper layer (For Example: See Figure 7e).

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. (U.S. Patent No. 5,656,858) in view of Huang (U.S. Publication No. 2002/0096764).

In regards to claim 12, Kondo fails to disclose the following:

a) solder bumps are selected from a group consisting of tin, indium, tin/lead, tin/indium, tin/silver, tin/bismuth, conductive adhesives, and z-axis conductive materials.

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However, Huang discloses the use of tin/lead solder bumps (For Example: See Paragraph 23). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Kondo to include the use of an tin/lead solder bumps as disclosed in Huang because it aids in providing a lower melting point solder (For Example: See Paragraph 23).

Additionally, since Kondo and Huang are both from the same field of endeavor, the purpose disclosed by Huang would have been recognized in the pertinent art of Kondo.

13. Claims 19-22, 24 and 25, as far as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. (U.S. Patent No. 5,656,858).

In regards to claim 19, Kondo discloses the following:

a) a portion of said copper metallization exposed by a window in said overcoat (For Example: See Figure 7e);

b) a copper layer directly positioned on said exposed clean copper metallization, said layer overlapping the perimeter of said overcoat window (For Example: See Figure 7e); and

c) a copper stud positioned on said copper layer, and following the contours of said copper layer (For Example: See Figure 7e).

In regards to claim 19, Kondo fails to disclose the following:

a) patterned copper layer and clean copper metallization.

However, the following limitations make it a product by process claim: a) patterned copper layer; and b) clean copper metallization. The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious

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from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "product by process" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "product by, all of" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "product by process" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

b) copper stud at least a factor of ten thicker than said copper layer.

Although Kondo does not specifically state that the copper stud is at least a factor of ten thicker than said copper layer, Kondo's dimensions for the limitations above are in the same range that Applicant disclosed.

Finally, the applicant has not established the critical nature of the dimension of "copper stud at least a factor of ten thicker than said copper layer" "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

In regards to claims 4 and 20, Kondo discloses the following:

a) copper layer has a thickness in the range from about .3 to .8  $\mu\text{m}$  (For Example: See Column 7 Lines 52 and 53).

Additionally, the applicant has not established the critical nature of the dimension of a copper layer that “has a thickness in the range from about .3 to .8  $\mu\text{m}$ ” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

In regards to claim 21, Kondo discloses the following:

- a) overcoat is a layer of silicon nitride (For Example: See Column 7 Line 39).

In regards to claim 22, Kondo discloses the following:

- a) window in said overcoat has sloped sides (For Example: See Figure 7e).

In regards to claim 24, Kondo discloses the following:

- a) copper layer follows the contour of said perimeter of said overcoat window (For Example: See Figure 7e).

In regards to claim 25, Kondo discloses the following:

- a) copper stud has a thickness in the range from about 10 to 20  $\mu\text{m}$  and a width equal to the extent of said copper layer, following the contour of said perimeter of said overcoat window (For Example: See Figure 7e and Column 7 Lines 53 and 54).

Additionally, the applicant has not established the critical nature of the dimension of “a copper stud that has a thickness of 10 to 20  $\mu\text{m}$ ” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990).

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14. Claim 23, as far as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. (U.S. Patent No. 5,656,858) in view of Applicant's Prior Art.

In regards to claim 23, Kondo discloses the following:

a) overcoat is a sequence of an inorganic layer adjacent to the integrated circuit (For Example: See Figure 7e).

In regards to claim 23, Kondo fails to disclose the following:

a) a polymeric layer.

However, Applicant's Prior Art discloses the use of a polymeric layer (For Example: See Figure 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor device of Kondo to include the use of a polymeric layer as disclosed in Applicant's Prior Art because it aids in reducing stress (For Example: See Page 3 Lines 14-30).

Additionally, since Kondo and Applicant's Prior Art are both from the same field of endeavor, the purpose disclosed by Applicant's Prior Art would have been recognized in the pertinent art of Kondo.

### *Conclusion*

15. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure: a) Kikkai (Japanese Patent No. 401094641) discloses a semiconductor device.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



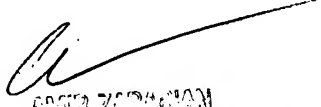
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 703-305-3743.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 703-308-4905. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML  
November 17, 2003

  
AMIR ZARABIAN  
SUPERVISOR, FIRST EXAMINER  
TECHNOLOGY CENTER 2800